

WHAT WE CLAIM IS:

1. A colloidal crystal preparation process,
wherein compressed air pulses are generated by control of
a compressed gas, and then guided to a colloidal crystal
5 preparation vessel having a flat plate type capillary
portion to produce a pressure fluctuation therein, which
is used as driving power, thereby giving a flow and hard-
stopping motion to a colloidal solution in said flat plate
type capillary for formation of colloidal crystals of good
10 single crystallinity.

2. A process of preparation of a colloidal
crystal gel having good single crystallinity, wherein
subsequent to said step of forming colloidal crystals of
good single crystallinity as recited in claim 1, a step of
15 gelating the formed colloidal crystals is applied.

3. A colloidal crystal preparation system,
comprising compressed gas feeder means, gas pulse
formation means for producing a compressed gas as short-
time gas pulses, and a colloidal crystal preparation
20 vessel having a flat plate type capillary portion for
formation of colloidal crystals.

4. A colloidal crystal gel preparation system,
comprising compressed gas feeder means, gas pulse
formation means for producing a compressed gas as short-
25 time gas pulses, a colloidal crystal preparation vessel
having a flat plate type capillary portion for formation
of colloidal crystals, and gelation acceleration means.